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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,710	02/24/2004	Mark L. Nelson	16534-512C01US	3651

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EXAMINER	
HAVLIN, ROBERT H	
ART UNIT	PAPER NUMBER
1626	

MAIL DATE	DELIVERY MODE
05/18/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/786,710	NELSON ET AL.	
	Examiner	Art Unit	
	ROBERT HAVLIN	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *10 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) *14,25,26,30,31,33-40,56-68,104-112 and 117-158* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,7,9-13,19,21,23,24,32,82 and 103* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 1-4,6,7,9-14,19,21,23-26,30-40,56-68,82,103-112,117-143,145-147 and 149-158.

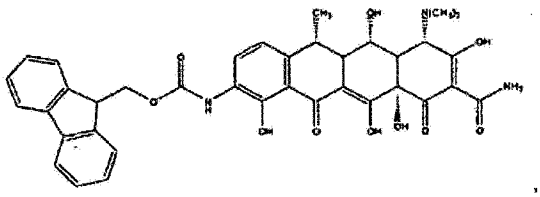
DETAILED ACTION

Status of the claims: Claims 1-4, 6-7, 9-14, 19, 21, 23-26, 30-40, 56-68, 82 and 103-112, 117-143, 145-147, and 149-158 are pending in the application.

Election / Restriction

The elected group and species is cited from the office action of 1/5/2006:

Acknowledgement is made of Applicant's election (without traverse) of Group I and, for search purposes, the species,



, in a response filed 11/09/2005.

As detailed in the rejection below, no generic claim was found patentable; therefore, the claims remain restricted in scope to the elected species only. Subject matter reading outside the scope of the elected species is hereby withdrawn.

Claims 1-4, 6-7, 9-13, 19, 21, 23-24, 32, 82, 103 were determined by the examiner to read on the elected species. Therefore claims 14, 25, 26, 30, 31, 33-40, 56-68, 104-112, 117-139, 140-153, 154-158 not reading on the elected species are withdrawn from consideration.

RESPONSE TO APPLICANT REMARKS

Double patenting

The double patenting rejections of claims 1-4, 6-7, 9-14, 19, 21, 23, 24, 30-40, 82, and 140-143, 145-154 are **maintained**. This is not the only remaining rejection, therefore the cited portion of MPEP 804 does not yet apply.

Claim Rejections - 35 USC § 103

1. Claims 1, 7, 11, 18, 23-25, 66 and 67 were rejected under 35 U.S.C. 103(a) as being unpatentable over Barden et al. (J. Med Chem, 1994, v. 37, no. 20, p. 3205-3211)

in view of Silverman, R. B. (The Org. Chem. of Drug Design and Drug Action, Academic Press, Inc.: San Diego, 1992, pp. 4-51).

Applicant argues that Barden teaches away from the claimed invention because the reference describes other compounds as having higher activity. This argument is not persuasive because a showing of inferior utility is not a teaching away as per MPEP 2145:

> *A prior art reference that "teaches away" from the claimed invention is a significant factor to be considered in determining obviousness; however, "the nature of the teaching is highly relevant and must be weighed in substance. A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994).*
> *…*
> *Furthermore, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed…." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).*

Applicant also argues that there is not a sufficient motivation or any objective reason to select compound 12 described in Barden. This argument is not persuasive because, as applicant points out, table 1 discloses the desired activity that would motivate one of ordinary skill in the art to select it. Although applicant argues that other compounds show greater activity than compound 12 in some respects, compound 12 has greater activity than other compounds in other respects (for example in S. aureus). Therefore, one of ordinary skill in the art has sufficient motivation to select the compound cited in the rejection.

Applicant next argues that Barden in combination with the prior art does not provide a motivation or reason to modify compound 12 to arrive at the claimed

invention. Applicant alleges that the teachings of Barden with respect to increased activity in lengthening the alkyl chain at the 9-position does not apply to cabamates because only one carbamate structure is described in table 1. This is not persuasive because Barden specifically states the desirability of lengthening the alkyl chain at the 9-position and one of ordinary skill in the art would expect this to equally apply to carbamates, particularly in light of the common knowledge of those of ordinary skill in the art with respect to homologation as taught by Silverman.

Applicant's arguments are not found persuasive and the rejection is **maintained**.

Claim Rejections - 35 USC § 112

2. Claims 1, 32, and 82 are rejected under 35 USC 112 1st paragraph as failing to comply with the written description requirement. The rejection is now amended to properly apply to the pending dependent claims under examination of claims 1-4, 6-7, 9-13, 19, 21, 23-24, 32, 82.

3. Independent claims 1 and 82 contain amendments including deleting part of a proviso and altering the scope of R9a to C3-10-alkyl without sufficient support in the original disclosure.

Regarding the amended proviso applicant points to the specific language from the specification supporting the deletion, thus this portion of the rejection is withdrawn.

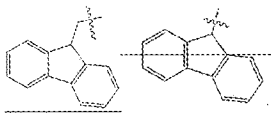
The rejection over the new subgenus whose entire scope is not supported by sufficient representative species is maintained.

Applicant argues that the following provides support for C3-C10 alkyl:

> The term "alkyl" includes saturated aliphatic groups, including straight-chain alkyl groups, branched-chain alkyl groups, cycloalkyl (alicyclic) groups, alkyl substituted cycloalkyl groups, and cycloalkyl substituted alkyl groups. The term alkyl further includes alkyl groups, which can further include oxygen, nitrogen, sulfur or phosphorous atoms replacing one or more carbons of the hydrocarbon backbone, *e.g.*, oxygen, nitrogen, sulfur or phosphorous atoms. In an embodiment, a straight chain or branched chain alkyl has 10 or fewer carbon atoms in its backbone (*e.g.*, C_1-C_{10} for straight chain, C_3-C_{10} for branched chain), and in another embodiment, 4 or fewer. Likewise, in certain embodiments, cycloalkyls have from 4-7 carbon atoms in their ring structure, and may have 5 or 6 carbons in the ring structure.

This is not found persuasive because the only support of C3-C10 is in the context of a branched chain and is accordingly a structural necessity for a branched chain; applicant has not shown how this applies to straight chain.

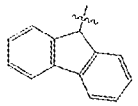
Applicant also alleges that the eleven compounds of Table 2 provide sufficient support for C3-C10 subgenus. This is not persuasive because the subgenus reads on more than a million species and the compounds described are not sufficiently representative of the subgenus. For example, the other variables read on aryl, arylalkyl, alkynyl, alkenyl, alkylthio, alkylsulfinyl, alkylsulfonyl, heterocyclic, heteroaromatic, prodrug, etc. without any compounds representing these independently broad definitions, not to mention the product of each of them together.

4. The amended claim 32 creates an unsupported new subgenus with the amendment:  .

Applicant argues that the following disclosure in the specification provides support for the amendment:

aryl and heteroaryl. In certain embodiments, the substituents are alkoxycarbonyl, amino, arylcarbonyl, halogen, hydroxy, alkylamino, alkoxy, or aryl. In certain embodiments, the substituent is halogen (*e.g.*, bromine, chlorine, iodine, fluorine).

In a further embodiment, R^{9a} includes at least one aryl group, *e.g.*, heteroaryl, phenyl, naphthyl, fluorene, *etc.* Fluorene is a moiety of the formula:



in one embodiment, R^{9a} is aryl, *e.g.*, substituted or unsubstituted phenyl. Examples of substituents include, but are not limited to, alkyl (*e.g.*, unsubstituted, *e.g.*, methyl, ethyl, propyl, butyl, or substituted, *e.g.*, chloromethyl, dichloromethyl, perchloromethyl, fluoromethyl, difluoromethyl, perfluoromethyl, *etc.*), alkenyl, alkynyl, aryl, alkoxy (*e.g.*, methoxy, ethoxy, propoxy, *etc.*), aryloxy, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, amido, halogen, nitro, azo, alkyl sulfonyl, and arylsulfonyl.

This is not found persuasive because there is no specific recitation of such subject matter, only a generic description that does not demonstrate that applicants had possession. Again, with over a million compounds, applicant fails to show a substantial disclosure of representative species to demonstrate possession of such a new subgenus with the broad definitions of the other variables as discussed above.

For the above reasons, the rejection is **maintained**.

NEW CLAIM REJECTIONS

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-4, 6-7, 9-13, 19, 21, 23-24, 32, 82 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims use definitions for variables including "a prodrug moiety."

Nature of Invention. The nature of the invention involves pharmaceutical compounds including forms unknown (prodrugs).

Scope of the Invention. The scope of the invention are for a huge genus of compounds of formula I, where the variables substantially vary in structure having in excess of millions of species encompassed by the genus.

State of the Art and Level of Skill in the Art. The formation of prodrugs is highly unpredictable due to the complex interplay between the biological system and the structural elements of the compound that is not well understood. One of ordinary skill in the art could not predict whether a particular prodrug would result in the compound maintaining utility.

Number of Working Examples and Guidance Provided by Applicant. The applicant provides no working examples or guidance of prodrugs at the relevant variable substitutions.

Unpredictability of the Art and Amount of Experimentation. The formation of prodrugs that maintain utility is highly unpredictable and one of ordinary skill in the art could not predict whether a particular prodrug would form, to determine this requires trial and error experimentation that would be an undue burden. Furthermore, there would be a huge amount of undue experimentation required in order to synthesize and screen the millions of compounds within the claimed scope for any possible prodrugs at the variable positions.

Considering the above factors, the claims are not enabled for prodrug moiety alternatives in the variable definitions.

Conclusion

The claims are not in condition for allowance.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT HAVLIN whose telephone number is (571)272-9066. The examiner can normally be reached on Mon. - Fri., 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor, Joe McKane can be reached at (571) 272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Havlin/
Examiner, Art Unit 1626